EDITORIAL

Endovascular treatment of abdominal aortic aneurysms: An innovation in evolution and under evaluation

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A recent editorial in the *British Journal of Surgery*, entitled "Endovascular treatment of abdominal aortic aneurysm: A failed experiment," makes some worthy points but overlooks how surgical developments evolve.[1] It should be required reading for all vascular surgeons and others engaged in endovascular aneurysm repair (EVAR) and particularly for those performing EVAR in patients with small abdominal aortic aneurysms (AAAs) <5.5 cm in maximal diameter.

The authors of the editorial, J. Collin and J. A. Murie, correctly point out the low rupture rate of small AAAs (<1% per year) and comment on the uncertain rupture rate of large AAAs. They also note the increasing device and procedural failures with time, the modification or withdrawal of all proprietary stent-grafts used in EVAR, the preponderance of small AAAs in most EVAR series, and the glaring lack of universal follow-up and audited reporting of late results. They indicate that the smaller AAAs that are usually treated by EVAR are those that may be easiest to repair by conventional open surgery and that this group of patients would have a low open-surgery operative mortality and require fewer reinterventions than with EVAR. They summarize the appreciable early and late complication rates of EVAR, the reintervention and conversion rates and the relatively high morbidity associated with some of these secondary interventions. They provide some evidence that EVAR may be more costly than conventional open AAA repair. They also note that the rupture risk of 1% per year after EVAR is not greatly different from the natural history of most of the small AAAs so treated. They comment on the high 30-day and 1-year mortality rates when EVAR is employed. They conclude by enumerating the forces promoting the rapid adoption of EVAR by surgeons and others—namely, the excitement of being involved in a new procedure, the hype, the desire to obtain personal and institutional prestige, and financial gains for surgeons and device manufacturers.

Within the context of their review, most of their points are correct, and surgeons using EVAR should pay them heed. We agree that EVAR should not generally be used to treat AAAs <5.5 cm in diameter unless the AAA is clearly enlarging, tender, or present in a small woman. EVAR should still be considered investigational and under evaluation and some form of audited follow-up for the life of all patients is mandatory. Prospective, randomized trials comparing EVAR with open AAA repair are justified in standard risk patients. In unfit, high-risk patients, EVAR should be compared in a randomized trial with best nonoperative management. Such trials are underway in the United Kingdom, the United States, and the Netherlands, although only in the United Kingdom is a high-risk trial planned. These trials, which will establish accurate indications for EVAR, should be supported.

However, we cannot accept the editorial's conclusion that EVAR is "a failed experiment." This conclusion would suggest the abandonment of EVAR, which would be a mistake. The history of surgical innovation is based on progress through the development of new technology, application of surgical intuition to perfect a procedure, and selection of appropriate patients. Just because an innovation is new or imperfect or has risks does not mean it should be abandoned. Airplanes, jet engines, blood transfusions, and other innovations had early problems, yet all eventually proved advantageous. EVAR will eventually prove to have value in selected (but not all) patients. Better devices and improved patient selection will almost certainly lead to improved results. Thus, EVAR is certainly here to stay, even though its precise role remains to be defined. EVAR is not a failed experiment; it is an innovation in evolution and under evaluation.

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Competition of interest: nil.

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